

Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

AMERICAN

JOURNAL OF BOTANY

OFFICIAL PUBLICATION OF THE BOTANICAL SOCIETY OF AMERICA

EDITORIAL COMMITTEE

C. E. Allen, Editor-in-Chief University of Wisconsin

WILLIAM CROCKER, The Thompson Institute For Plant Research, Inc.

C. STUART GAGER, Business Manager Brooklyn Botanic Garden

R. A. HARPER,

Columbia University

H. H. BARTLETT,

University of Michigan

ARTHUR H. GRAVES,

Brooklyn Botanic Garden

I. F. Lewis,

University of Virginia

C. L. SHEAR, Bureau of Plant Industry (Representing American Phytopathological Society)

VOLUME IX-1922

WITH THIRTY-FIVE PLATES AND ONE HUNDRED AND FOURTEEN TEXT FIGURES

PUBLISHED

IN COOPERATION WITH THE BOTANICAL SOCIETY OF AMERICA

BY THE

BROOKLYN BOTANIC GARDEN

AT PRINCE AND LEMON STREETS, LANCASTER, PA.

PRESS OF THE NEW ERA PRINTING COMPANY LANCASTER. FA.

TABLE OF CONTENTS, VOLUME IX, 1922

No. 1, January

I	PAGE
Ecological relations of plants in southeastern Missouri (with three text	
figures and Plates I and II)J. C. TH. UPHOF	I
Methods of healing in some algal cells (with Plate III)	
Susan P. Nichols	18
The present status of Scolopendrium in New York State (with two	
text figures)	28
Biophysics as a point of view in plant physiology	
Howard E. Pulling	37
No. 2, February	31
The growth of field corn as affected by iron and aluminum salts (with	
six text figures and Plate IV)	47
Control of the sexual state in Arisaema triphyllum and Arisaema	17
DracontiumJohn H. Schaffner	72
A demonstration of numerous distinct strains within the nominal species	, ~
Pestalozzia Guepini Desm CARL D. LA RUE AND H. H. BARTLETT	79
2 cocaronala oucpui D comir. Ciril D i Bir I (c) i i i i i i i i i i i i i i i i i i i	19
No. 3, March	
Undercooling of peach buds (with one text figure) EARL S. JOHNSTON	93
Significance of the behavior of sensitive stigmas F. C. Newcombe	99
The relation of age to size in certain root cells and in vein-islets of the	"
leaves of Salix nigra Marsh. (with three text figures)	
Marjorie A. Tellefsen	121
The origin of new varieties of Nephrolepis by orthogenetic saltation II.	121
Regressive variation or reversion from the primary and secondary	
sports of bostoniensis (with Plates V–X)R. C. BENEDICT	T 40
sports of bostomensis (with Flates V-A)	140
No. 4, April	
Hydrogen-ion concentration in its relation to wheat scab (with 18	
text figures)E. F. HOPKINS	159
On the physiological balance in nutrient solutions for plant cultures	-07
W. F. Gericke	т80
Vegetative vigor of the host as a factor influencing susceptibility and	200
resistance to certain rust diseases of the higher plants I.	
M. A. RAINES	т82
Rots of early strawberries in Florida and southern California (with	. U
four text figures)	204
Total text lightes)	204

No. 5, May

· · · · · · · · · · · · · · · · · · ·	2.00
Potato ovules with two embryo sacs (with one text figure)	PAGE
W. J. Young Vegetative vigor of the host as a factor influencing susceptibility and resistance to certain rust diseases of the higher plants II (with Plates XI and XII)	Ü
Lignification of mature phloem in herbaceous types (with Plate XIII) CARL L. WILSON	239
Observations on the effect of water-raking on the keeping quality of cranberries	245
Incipient drying and wilting as indicated by movements of coconut pinnae (with one text figure)	266
Nutrient solutions for wheat W. E. TOTTINGHAM AND E. J. KANKIN	2/0
No. 6, June	
Comparative studies on respiration XXI . Acid formation and decreased production of CO_2 due to ethyl alcohol (with two text	
figures)MARIAN IRWIN AND MARGARET WEINSTEIN A new species of Spirogyra with unusual arrangement of the chromato-	277
phores (with three text figures)	
24 text figures and Plate XIV)	•
XV)	
EDITH PHILIP SMITH The effect of transpiration on the absorption of salts by plants	307
Walter C. Muenscher	311
Prairie inclusions in the deciduous forest climax (with two text figures) HERBERT C. HANSON	330
No. 7, July	00
A preliminary study of Claviceps purpurea in culture (with Plates XVI–XXI)	339
Studies in the genus Gymnosporangium IV. Distribution of the mycelium and the subcuticular origin of the telium in G. clavipes	
(with seven text figures and Plate XXII)B. O. Dodge Certain relations between root development and tillering in wheat: significance in the production of high-protein wheat	354
W. F. Gericke	366
The pollination of Marcgravia: a classical case of ornithophily? (with five text figures and Plates XXIII and XXIV)IRVING W. BAILEY	270
iive teat lightes and I lates MAIII and MAIV) IRVING W. DAILET	3/5

Environmental temperatures of fungi in nature (with one text figure) Neil E. Stevens 385
The reduction divisions in the pollen mother cells of Oenothera franciscana (with Plates XXV-XXVII)RALPH E. CLELAND 391
No. 8, October
Studies of the mechanism of the physiological effects of certain mineral salts in altering the ratio of top growth to root growth in seed plantsTHOMAS WYATT TURNER 415
A preliminary notice of genetical studies of resistance to mildew in
OenotheraPeter J. Klaphaak and H. H. Bartlett 446 Growth of some parasitic fungi in synthetic culture media (with four
text figures)
No. 9, November
The structure of the starch grain (with nine text figures)
O. L. Sponsler 471 A study of the white heart-rot of locust, caused by Trametes robiniophila (with three text figures)
C. H. Kauffman and H. M. Kerber 493
The origin and development of lamellae in Agaricus campestris and in certain species of Coprinus (with 12 text figures and Plates XXVIII-XXXV)
No. 10, December
The effect of Bordeaux mixture upon the chlorophyll content of the primordial leaves of the common bean, Phaseolus vulgaris L.
W. A. Ruth 535 The effect of low-temperature storage and freezing on fruits and
vegetablesLon A. Hawkins 551
Revision of the South American species of Cuscuta I. T. G. YUNCKER 557
Index to Volume IX
No. 4, May 15; No. 5, June 21; No. 6, July 12; No. 7, Aug. 30; No. 8. Oct. 20; No. 9, Nov. 27; No. 10, Jan. 8, 1923.)

ERRATA, VOLUME IX

Page 150. Line 19 should read:

also in the greenhouses of Peter Wagner of Brooklyn.5

Page 188, line 32; and page 193, line 1. Puccinia Caryophylli should be Uromyces caryophyllinus.

Page 323. In line 8, soulution should be solution.

- " 342. In lines 26 and 27, of a parasite should be or a parasite.
- "464. In next to last line of table, Colletotricum should be Colletotricum.

CORRECTION

Through an oversight, the writer failed to state in his paper, "Studies of the Mechanism of the Physiological Effects of Certain Mineral Salts in Altering the Ratio of Top Growth to Root Growth in Seed Plants" (pp. 415–445), that the method used in growing isolated root tips was first suggested by Dr. W. J. Robbins, who had previously demonstrated its practicability.

THOMAS W. TURNER